

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

- 1-32. (Canceled)
33. (Currently Amended) A method of manufacturing a transistor, comprising:
- forming a semiconductor film on a substrate;
  - forming an intrinsic portion and a first impurity portion in the semiconductor film by applying a first impurity atom to the semiconductor film, the intrinsic portion not including the first impurity atom, the first impurity portion including the first impurity atom;
  - forming an insulator film over the semiconductor film;
  - forming a gate electrode over the insulator film, ~~the gate electrode overlapping with at least a part of the intrinsic portion and at least a part of the first impurity film to define the first impurity portion as three portions, a first portion of the first impurity portion overlapping with the gate electrode, and a second portion of the first impurity portion and a third portion of the first impurity portion not overlapping with the gate electrode, the first portion of the first impurity portion being positioned between the second portion of the first impurity portion and the third portion of the first impurity portion, and to define the intrinsic portion as three portions, a first portion of the intrinsic portion overlapping with the gate electrode, and a second portion of the intrinsic portion and a third portion of the intrinsic portion not overlapping with the gate electrode, the first portion of the intrinsic portion being positioned between the second portion of the intrinsic portion and the third portion of the intrinsic portion; and~~
  - forming a second impurity portion in the semiconductor film by applying a second impurity atom to the semiconductor film using the gate electrode as a mask, the second impurity portion being separated into two parts by at least the intrinsic portion of the

intrinsic portion being turned into a first portion of the second impurity portion by the applying the second impurity atom, the third portion of the intrinsic portion being turned into a second portion of the second impurity portion by the applying the second impurity atom, the second portion of the first impurity portion protruding into the first portion of the second impurity portion, and the third portion of the first impurity portion protruding into the second portion of the second impurity portion.

34. (Currently Amended) A method of manufacturing a transistor, comprising:

- forming a semiconductor film on a substrate;
- forming an intrinsic portion and a first impurity portion in the semiconductor film by applying a first impurity atom to the semiconductor film, the intrinsic portion not including the first impurity atom, the first impurity portion including the first impurity atom, ~~the first impurity portion being separated into at least two parts by the intrinsic portion; atom;~~
- forming an insulator film over the semiconductor film;
- forming a gate electrode over the insulator film, ~~the gate electrode overlapping with at least a part of the intrinsic portion and at least a part of the first impurity~~ film to define the intrinsic portion as three portions, a first portion of the intrinsic portion overlapping with the gate electrode, and a second portion of the intrinsic portion and a third portion of the intrinsic portion not overlapping with the gate electrode, the first portion of the intrinsic portion being positioned between the second portion of the intrinsic portion and the third portion of the intrinsic portion; and
- \_\_\_\_\_forming a second impurity portion in the semiconductor film by applying a second impurity atom to the semiconductor film using the gate electrode as a ~~mask.~~ mask, the second portion of the intrinsic portion being turned into a first portion of the second impurity portion by the applying the second impurity atom the third portion of the intrinsic portion being turned into a second portion of the second impurity portion by the applying the

second impurity atom, and no portion of the first impurity portion not overlapping with the gate electrode.

35. (Currently Amended) A method of manufacturing a transistor, comprising:  
forming a semiconductor film on a substrate;  
forming an intrinsic portion and a first impurity portion in the semiconductor film by applying a first impurity atom to the semiconductor film, the intrinsic portion not including the first impurity atom, the first impurity portion including the first impurity atom;  
atom, the first impurity portion being separated into at least two portions by the intrinsic portion;

forming an insulator film over the semiconductor film;

forming a gate electrode over the insulator film; film to define the intrinsic portion as three portions, a first portion of the intrinsic portion overlapping with the gate electrode, and a second portion of the intrinsic portion and a third portion of the intrinsic portion not overlapping with the gate electrode, the first portion of the intrinsic portion being positioned between the second portion of the intrinsic portion and the third portion of the intrinsic portion, the at least two portions of the first impurity portion overlapping with the gate electrode; and

forming a second impurity portion in the semiconductor film by applying a second impurity atom to the semiconductor film; film using the gate electrode as a mask, the second portion of the intrinsic portion being turned into a first portion of the second impurity portion by the applying the second impurity atom, the third portion of the intrinsic portion being turned into a second portion of the second impurity portion by applying the second impurity atom.

36. (Previously Presented) The method of manufacturing a transistor according to claim 33,

the first impurity portion being separated into at least two parts by the intrinsic portion by applying the first impurity atom to the semiconductor film.

37. (Previously Presented) The method of manufacturing a transistor according to claim 33,

the intrinsic portion being separated into at least two parts by the first impurity portion by applying the first impurity atom to the semiconductor film.

38. (Previously Presented) The method of manufacturing a transistor according to claim 33,

the intrinsic portion being separated into at least two parts by the first impurity portion by applying the first impurity atom to the semiconductor film, the two parts of the intrinsic portion being arranged in a channel width direction.

39. (Currently Amended) The method of manufacturing a transistor according to claim 33, the semiconductor film having a channel region under the gate electrode, the channel region consisted of the intrinsic portion and the first impurity portion, the intrinsic portion being separated into a plurality of intrinsic parts and the first impurity portion being separated into a plurality of first ~~intrinsic~~-impurity parts, the plurality of intrinsic parts and the plurality of first ~~intrinsic~~-impurity parts being alternated.

40. (Currently Amended) The method of manufacturing a transistor according to claim 33, the semiconductor film having a channel region under the gate electrode, the channel region consisted of the intrinsic portion and the first impurity portion, the intrinsic portion being separated into a plurality of intrinsic parts and the first impurity portion being separated into a plurality of first ~~intrinsic~~-impurity parts, the plurality of intrinsic parts and the plurality of first ~~intrinsic~~-impurity parts being arranged in a channel width direction.

41. (Previously Presented) The method of manufacturing a transistor according to claim 33, further comprising:

applying an energy to the semiconductor film to crystallize it before the forming of the intrinsic portion and the first impurity portion.

42. (Previously Presented) The method of manufacturing a transistor according to claim 33, a dosage of the first impurity portion being larger than a dosage of the second impurity portion.

43. (Previously Presented) A method of manufacturing an active-matrix substrate using the method of manufacturing a transistor according to claim 33.

44. (Previously Presented) A method of manufacturing an electro luminescent device using the method of manufacturing a transistor according to claim 33.

45. (Previously Presented) A method of manufacturing a display device using the method of manufacturing a transistor according to claim 33.

46. (Previously Presented) A method of manufacturing an electronic apparatus using the method of manufacturing a transistor according to claim 33.

47. (New) The method of manufacturing a transistor according to claim 33, an amount of peripheral electron of the first impurity atom and an amount of peripheral electron of the second impurity atom being different.